IPNI
Plant Nutrition TODAY
Better Crops, Better Environment...through Science

From Scientific Staff of the
International Plant Nutrition Institute (IPNI)
3500 Parkway Lane, Suite 550
Norcross, Georgia 30092-2806 USA
Phone: 770-447-0335 Fax: 770-448-0439
E-mail: info@ipni.net Website: www.ipni.net

Fall 2008, No. 5

CONSIDERATIONS FOR CONDUCTING ON-FARM RESEARCH

Rising input costs and high commodity prices have considerably increased the risk associated with making a wrong decision on the farm. To minimize these risks, many farmers are becoming more analytical regarding their inputs and are showing more interest in conducting their own on-farm research to help guide decisions.

There are several specific things that on-farm research can address, but the most common question farmers want answered is: "Does an alternative practice work on my farm and make me more profitable?" Research can provide answers to previously unanswered questions, validate previously drawn conclusions, and help predict crop responses to changes in management, but unless the farmer sees the results on his own land, he is often reluctant to make the change. It is not possible for university or industry researchers and extension personnel to conduct trials on every farm, but by following a few simple guidelines, farmers can conduct their own valid and useful research.

To obtain the most reliable results, farmers need to plan to replicate their research. Replicating or repeating the practice being tested at multiple locations in the field will help average across the "background noise" associated with soil and landscape variability on the farm. It also allows farmers to make a statistical determination of "real" differences among the practices being tested. Farm management software packages are available that provide simple spreadsheet approaches for analyzing on-farm research. Farmers should also plan on conducting their research over more than one growing season to minimize the affect of variable weather patterns.

Farmers should establish a baseline performance level for comparisons. Yield is the variable most often used for evaluating the results of on-farm research; however, yield can fluctuate greatly from year to year in a field. Several years of data should be used to establish the baseline so the year being tested can be classified as high, low, or average. Some practices have been found to perform differently in better or worse growing seasons compared to an average year. Establishing baselines can also help the farmer test new practices in different yielding areas of the field to identify those strategies that are best implemented in a site-specific manner.

Application equipment and yield monitors must be calibrated properly. The adage is "garbage in, garbage out". The point of conducting on-farm research is to be more profitable. However, if the research is conducted in a sloppy manner by not being accurate and precise when applying treatments or collecting yield data, it is a waste of money, time, and energy. It is just as critical to conduct good research to evaluate something simple like a new variety as it is to conduct a more complex trial such as testing several rates of a new fertilizer material.

On-farm research can help answer questions important to growers, but requires sound planning and attention to detail. Current production economics make "getting it right" more important than ever. By following simple guidelines, farmers can conduct their own on-farm research to supplement information coming from university and industry research programs to make a more educated decision regarding their farming practices.

—SBP—

For more information, contact Dr. Steve Phillips, Southeast Director, IPNI, 3118 Rocky Meadows Road, Owens Cross Roads, AL 35763. Phone (256) 533-1731. E-mail: sphillips@ipni.net.